

What is claimed is:

1. An indoor unit of a satellite television ground system comprising:

5        tuning circuitry operative to tune a first satellite television signal and a second satellite television signal received from an outdoor unit of the satellite television ground system;

10        first processing circuitry in communication with the tuning circuitry and operative to obtain carrier frequency offset data of one of the first and second satellite television signals;

         oscillator circuitry operative to generate an oscillator signal; and

15        second processing circuitry in communication with the first processing circuitry and the oscillator circuitry, the second processing circuitry operative to frequency stabilize the oscillator signal utilizing the obtained carrier frequency offset data, and provide the frequency stabilized oscillator signal to uplink and downlink circuitry of the outdoor satellite television signal unit.

2. The indoor unit of claim 1, wherein the first processing circuitry includes a carrier tracking loop.

20        3. The indoor unit of claim 2, wherein the carrier tracking loop includes a loop filter having an integrator, the carrier frequency offset data obtained from the integrator.

25        4. The indoor unit of claim 3, wherein the first processing circuitry is further operative to generate a first processing circuitry oscillator control signal.

30        5. The indoor unit of claim 4, wherein the first processing circuitry oscillator control signal is generated by a numerically controlled oscillator.

6. The indoor unit of claim 1, wherein the first processing circuitry includes a satellite television signal demodulator.

7. The indoor unit of claim 1, wherein the first processing circuitry is operative to obtain carrier frequency offset data of both the first and second satellite television signals, and the second processing circuitry is operative to frequency stabilize the uplink oscillator signal utilizing the obtained carrier frequency offset data of both the first and second satellite television signals.

8. An indoor unit of a satellite television ground system comprising:

means for tuning first and second satellite television signals received from an outdoor unit of the satellite television ground system;

means, in communication with the means for tuning first and second satellite television signals, for obtaining carrier frequency offset data of one of the first and second satellite signals;

means, in communication with the means for obtaining carrier frequency offset data, for generating an oscillator signal; and

means, in communication with the means for obtaining carrier frequency offset data and the means for generating an oscillator signal, for frequency stabilizing the oscillator signal and providing the frequency-stabilized oscillator signal to uplink and downlink circuitry of the outdoor unit.

9. The indoor unit of claim 8, wherein the means for obtaining carrier frequency offset data comprises carrier tracking loop means.

10. The indoor unit of claim 9, wherein the carrier tracking loop means includes loop filter means having an integrator means, the carrier frequency offset data obtained from the integrator means.

11. The indoor unit of claim 10, wherein the means for obtaining carrier frequency offset data includes means for generating a carrier frequency offset oscillator control signal.

12. The indoor unit of claim 11, wherein the means for generating a carrier frequency offset oscillator control signal includes a numerically controlled oscillator means.

5 13. The indoor unit of claim 8, further comprising means for demodulating the first and second satellite television signals, said means for demodulating in communication with the means for tuning.

10 14. The indoor unit of claim 8, wherein the means for obtaining carrier frequency offset data of one of the first and second satellite signals is operative to obtain carrier frequency offset data of both the first and second satellite television signals, and the means for frequency stabilizing the oscillator signal is operative to frequency stabilize the oscillator signal utilizing the obtained carrier frequency offset data of both the first and second satellite television signals.

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15. In an indoor unit of a satellite television ground system, a method of frequency stabilizing an oscillator signal comprising the steps of:

receiving a first satellite television signal from an outdoor unit of the satellite television ground system;

5 obtaining carrier frequency offset data of the received first satellite television signal;

generating an uplink signal;

generating an oscillator signal utilizing the carrier frequency offset data;

combining the generated uplink signal with the generated oscillator signal;

10 providing the combined uplink signal to the outdoor unit; and

providing the oscillator signal to uplink circuitry and downlink circuitry of the outdoor unit.

16. The method of claim 15, wherein the step of obtaining carrier frequency offset data comprises obtaining carrier frequency offset data via a carrier tracking loop.

17. The method of claim 16, wherein the step of obtaining carrier frequency offset data via a carrier tracking loop comprises obtaining carrier frequency offset data via a carrier tracking loop having a loop filter and integrator, wherein the carrier frequency offset data is obtained from the integrator.

18. The method of claim 15, further comprising the step of:

demodulating the first satellite television signal.